Main Article

COMMUNITY ORIENTED RESEARCH PROGRAM FOR PREVENTION OF DEAFNESS WITH SPECIAL STRESS ON CHILDREN - A PRELIMINARY REPORT

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ABSTRACT : *A study of community- oriented multilateral study was carried out in rural community of eastern Nepal where in total of 2564 patients were screened out and it revealed that multi nutritional deficiency comprised of 20% along with unsatisfactory or incomplete immunization was recorded in 45%. Children up-to 14 years of age (1223) were considered for this study. 5 –14 years of age were the most vulnerable for ear diseases (50.16%). 61% children were living in over crowded dwellings. The hearing analysis established that the number of conductive deafness were prevalent in 62.46% in comparison to sensory- neural hearing loss 2.04% and mixed hearing loss (0.81%). Due to better ear care, Otorrhoea was under control in 67% cases and so was the conductive deafness improved.*

Keywords : *Community-oriented study, rural community, prevalence, hearing loss, Otorrhoea.*

INTRODUCTION

Nepal, though beautiful with its snow capped mountains and lustrous foothills is ridden with illiteracy, poverty and sociopolitical problems. It is one of the least developed countries of the world. The Incidence of hearing loss in Nepal as per earlier survey is 16.6% (BRINOS/TUTH report-1991). India our immediate neighbour has its prevalence of hearing loss to be around 10.7%(The ICMR report-1983, based on multi-centric study); a significant difference exists between the two neighbours. This along with the massive number of ENT patient, approximately 120 per day visiting the out patient department of B.P.Koirala Institute of Health Sciences (BPKIHS) provoked us to initiate a survey cum treatment (where Possible) in two of its (the Institute's.) neighboring villages (Madhuban and Kushaha) of Sunsari district, at eastern Nepal.

AIMS AND OBJECTIVES

To organize holistic community health and ear care service to eastern part of Nepal.

To conduct a survey cum treatment service with special stress on children wherein primary immunization, training in adopting better hygienic measures, public awareness and education were to be organized along with management of simple curative measures at the community level.

To prevent the physical handicaps as far as practicable with special emphasis on conserving the hearing.

To impart medical and surgical treatment where, possible.

To provoke people for the need of early referrals.

Plan of Action

Three pronged attacks had been initiated by BPKIHS in April 2001 consisting of :

1. Diagnosing and treating the medical stage of hearing loss through the weekly visits of the team consisting of otologist, audiologist and residents, spending the day at primary sub-health care center for preventive and curative services.
2. Domiciliary visits by the teams to identify the members of community with hearing loss, particularly neonates and infants at pre-lingual stage and to register the vulnerability for mutism. The knowledge of improving living condition, nutrition, general health, immunization and ear cleaning etc. are also imparted. Attempts are made to record any causative factors responsible for their infirmity and advocate cheap and possible remedies.
3. School ear health education wherein involving the teachers and students in the learning of the proper ear care, early identification of deafness, avoiding the factors leading to deafness and early referral are to be emphasized.

House to house and outreach services

The "in house" service is designed to identify at the earliest the hearing and allied handicaps. The suspected patients to be treated and referred in time for further investigation and management. Thus suitable medical, surgical and rehabilitative management to the patient may be insured in

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time. The vulnerable child on basis of Para-natal ailments, neonatal illness, nutritional disorders are to be targeted for future references and identification of their handicaps for early management. This is especially desirable for the weaker section of the society, particularly girls, tribal and backward communities.

LOCATION, FREQUENCY AND DURATION OF VISITS

Madhuban and West Kushaha Village Development Committee of Sunsari district-initially to be visited every Thursday for one year. Then on, every month for a period of five years.

The basic services envisaged in this program

(1) To improve the aural health of people and to prevent the onset of hearing loss, deafness, speech defects, otorrhoea, otalgia, mutism and also their complications.
(2) To conduct free clinics for hearing and allied handicaps at community level.
(3) To train, educate and organize the manpower imparting the ear care program and rehabilitation.
(4) To conduct studies, generate statistics and research on hearing loss and allied handicaps at selected centers.
(5) To institute measures to lower the prevalence of hearing loss. This shall be instrumental in reducing the number of dropouts from the school (at present up to 80%).

The district authorities shall be approached in future for the guidance of the peripheral workers like general practitioners, social workers, village level workers, midwives, public health nurses and school teachers etc. apart from screening and treating the common ailments of deafness.

OBSERVATIONS AND DISCUSSION OF THE CASES REGISTERED

In the targeted two-village development committee a total number of 2564 patients were so far examined. 1223 children up to the age of 14 years were screened (Kushaha-473, Madhuban-750). Multi-nutritional deficiency comprised of 20% of the cases along with, unsatisfactory or incomplete immunization recorded in 45%. Children between 5-14 years of age were most vulnerable for ear diseases (Table-I). Poor nutrition, incomplete immunization, lack of proper clothes, poor sanitation and unhygienic living conditions were significant factors leading to this prevalence. In sex group, varied results were observed. In Kushaha VDC Females (245) predominates Males (225). Similarly, results were seen at Madhuban (M-354, F-396). This marginally larger number of female attendance could be because of the male being involved in out-door activities (working in field, playing etc.). It was seen that 61% of children were living in overcrowded dwellings. Otoscopy revealed the prevalence of ear disease to be around 67.86%. The benign otorrhoea due to mucositis and tubo-tympanitis to be the commonest pathology i.e. 437 cases (35.72%). Both ear involvement was very common among these. Left ear and the right followed this. The unsafe otorrhoea due to osteitis and epithetlitis combined together were seen in 16 (1.31%) cases of which 9 cases involved the right ear, 5 in left ear and 2 cases were seen in both ears. The high incidence of otitis media is seen during winter months of December to February resulting from frequent upper respiratory tract infections which are either untreated or partially (i.e. 2-3 days) treated.

The impacted cerumen were recorded in 168 (13.73%) cases with bilateral involvement in most (92). These cases of impacted cerumen in dry months is very common and very often family is not aware or concerned with minor hearing loss.

Tubal catarrhal cases were seen in 80 (6.54%), Otomycosis (aural mycosis) comprising of 97 (7.93%) cases were more common during monsoon. Unhygienic living, swimming in ponds and warm humid weather was responsible for it. Similarly, acute suppurrative otitis media were seen in 22 (1.79%), otitis media with effusion in 18 (1.47%), foreign body in 4 (0.32%) and traumatic perforation cases were seen in 1 (0.08%).

The hearing analysis established that the numbers of conductive deafness were the most 764 (62.46%) in comparison to sensory-neural hearing loss 25 (2.04%) and mixed hearing loss 10 (0.81%) cases.

The quantitative estimation of hearing loss was noted to be mild in 54%, moderate in 41% and severe in 5% cases. In 65% cases amongst the mild hearing loss group, it seemed to improve. However, in those of moderate and severe losses, it remained the same or improved only marginally. It was noteworthy to observe that most of the patients with hearing impairment were of the poor economic status (61.50%).

It was noticed at the end of one year with our diversity of approaches to the people of these two villages that the maintenance of aural hygiene was better and so was the aural toilette and medications of otorrhoea cases.

It is perhaps due to better ear care that otorrhoea was under control in 67% cases and so was the conductive deafness improved. Four middle aged were provided with hearing aids with beneficial effect. It was with economic constraints that surgery as well as hearing aid could not be supplied to most of these needy people.

Community predisposition for hearing loss revealed that these villages are inhabited mainly by poor population with large number of family members crumpled and crowded in 1 to 2 rooms without proper ventilation and toilets. Besides in the immediate vicinity of these huts, domestic animals share their space. It is seen that parents are mainly at fields and the younger children are under the mercy of their immediate elders (8 -14 years of age). These coupled together make the children easy prey to various infections. The parental attention and individual guidance for the personal hygiene to the children are often missing.

Institutional support as provided to the people following these surveys had laid the foundation for better understanding of the ear care and conserving their hearing status. Our persistent efforts in mass awareness and oral hygiene shall hopefully go in future a long way in betterment of hearing not only of few villages but of the nation as a whole.

Table I : Age Distribution of the total cases screened

VDC	0-4	5-14	15-29	30-44	45-55	60-74	75-
Kushaha	243	258	177	97	78	59	22
Madhuban	171	607	324	260	133	100	35

Table II : Sex Distribution in children

VDC	Male	Female
Kushaha	225	248
Madhuban	354	396

Table III : Break-up of diseases

Diagnosis	no. of cases	percentage
Impacted wax	168	13.73
Chronic otitis media	453	37.04
· Tubo tympanic	437	35.72
· Attico-antral	16	1.31
Unexplained S.N.loss	15	1.22
Otomycosis	97	7.93
Tympanic atelectasis	17	1.39
Otitis media with effusion	18	1.47
Traumatic Perforation	1	0.08
Tubal cattharal	80	6.54
Otitis externa	31	2.53
ASOM	22	1.79
Deaf/Mutism	2	0.16
W.N.L.	313	25.59
F.B.	4	0.32

Table IV : Break-up of deafness

Nature of hearing loss	no. of cases	Percentage	Speech defects
Conductive	764	62.46	nil
Sensory-neural	25	2.04	0.77%
Mixed	10	0.81	nil

Table V : Economic status

Total cases	Cases. in children	% of cases with H.L.	Economic status in %		
			Rich	middle	poor
2564	1223	65.33	15	23.50	61.50

Table VI : Severity of hearing loss

Severity	%
Mild	54
Moderate	41
Severe	5

CONCLUSION

This study gives an insight into the prevalence of otologic disease pattern in children of eastern Nepal. It depicts the age/sex group most affected. The mild conductive hearing losses are mostly seen followed by sensory-neural hearing loss and mixed. Most of the causes of hearing losses are revertible. Deafness and disease patterns were mainly prevalent in 5-14 years of age group.

Repeated aural health education imparted to the community has made them aware of treating the ear which, otherwise

would have been neglected. This can be discerned from the massive number of normal ear finding detected.

Socio-economic condition, low sanitation, poor nutrition/ immunization, illiteracy and virtual non-existent health education looms large. Inspite of this grave scenario, general awareness, early referrals and intervention if taken, can alleviate the existing numbers of deaf. Future of the nation and that of the world lies upon present children who are better without handicap.

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